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THREAD GUIDE

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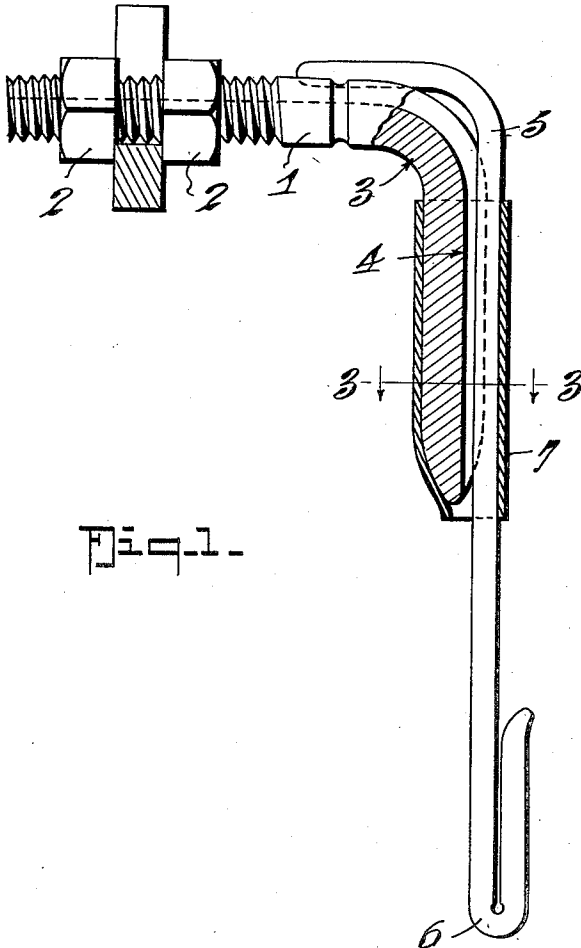


Fig. 1.

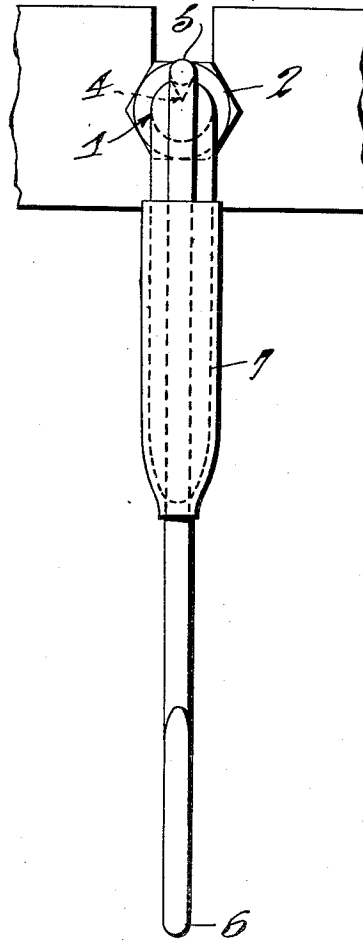


Fig. 2.

Fig. 3.



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THREAD GUIDE

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2 Claims. (Cl. 242—157)

This invention concerns the handling of cel-
lulose filaments and has particular reference to
an improved apparatus for guiding freshly ex-
truded artificial filaments in their passage from
the precipitating bath to the bobbins or spools
upon which they are to be collected.

The following description is given to the use of
this apparatus in the production of viscose fila-
ments, but it is to be understood that the guide
may be used, generally, in any other spinning or
extruding processes where filaments are made or
treated, and we do not, therefore wish to limit
ourselves to the use of this guide in the produc-
tion of viscose filaments.

In producing artificial silk by the viscose proc-
ess, a cellulose xanthate solution is extruded
into an acid bath, and the resulting filaments are
led, by means of guides, to spools or bobbins, and
are then collected for further treatment. Ordin-
arily, these guides are made of glass, and are
held on some standard or support which is re-
sistant to the action of the acid carried by the
filaments. Although the glass and support may
be resistant to the acids and acid fumes, no pro-
vision has hitherto been made whereby the silk
passing through the guides is protected from
salts precipitating and collecting on the support.

An object of the present invention, therefore,
is to produce an improved device whereby the fol-
lowing advantages may be obtained:

The filaments are passed through a glass, acid-
resisting channel;

The channel or guide is secured firmly, but de-
tachably, to an acid resisting standard or sup-
port;

The means whereby the guide and support are
attached is not only quickly removable for clean-
ing purposes, but prevents the collection of crys-
tallized salts on the surface of the support;

The rubber attachment used is large enough
to adequately protect the standard;

Guides may be changed while the machines
are in operation;

As the collecting of crystals on the standard
or support is prevented, there will be no danger
of injury to the passing filaments from falling or
obstructing crystalline formations.

In describing our apparatus, reference will be
made to the accompanying drawing, in which:

Figure 1 is a plan view, partially in cross-sec-
tion, of our new device;

Figure 2 is a front elevational view of the thread
guide in position; and

Figure 3 is a detailed view of the manner in
which the guide is gripped, this view being taken
on the line 3—3 of Figure 1.

The standard 1 is securely held to the traverse
bar of a spinning machine by means of the nuts

2. At 3 a cross-section of the support is shown.
This support is constructed of acid resisting sub-
stance, generally aluminum, and is provided with
a groove 4 into which a glass rod 5 fits. This rod
is bent, as at 6, to form a channel-like guide
member through which the extruded filaments
pass. In order to secure the glass rod to its
support, a piece of rubber tubing 7 is used. As
shown in the drawing this tubing covers the
greater portion of the standard or support 3 and
thus protects the same, both from the corro-
sive action of the acids used in the precipitating
bath and from the possibility of collecting in-
jurious crystals, since the crystals do not tend
to form on the rubber surface.

In actual operations, the filaments pass
through 6 carrying with them adhering acid.
This is scraped off by 6 and the resulting damp-
ness and fumes tend to rise and affect the re-
mainder of the guide 5. The presence of the
rubber sheathing on the rod, however, prevents
crystals from forming and thus does away with
any danger of damaging the filaments by allow-
ing crystals to fall onto the guide. In order to
change the guide for cleaning purposes, etc., the
operator needs only to slip the rubber cover 7
from the guide and support, and insert another
guide. In this way, changes may be made with-
out affecting the operation of the spinning ma-
chine.

Although we have described our invention as
applied to one particular type of guide, it is ap-
parent that it may be applied to other types of
guides and standards. It is not intended to here-
by limit our invention to the particular embod-
iment shown since the novel principles involved
may be utilized in many other modifications.

Having now set forth our invention as re-
quired by the patent statutes, what we desire to
claim is:

1. In a thread guide for use in the wet-spin-
ning of filaments, threads, etc., in combination,
an acid-resisting support, a groove formed in a
portion of the face of said support, a thread guide
rod positioned in said groove, said rod extending
beyond said support and carrying a thread guid-
ing portion thereon, and an elastic tube secur-
ing said thread guide to said support.

2. In combination, a support, a groove formed
in one face of said support, a thread guide rod
positioned in said groove, said rod extending be-
yond said support and carrying a thread guiding
portion thereon, and a tube securing said rod
to said support and adapted to prevent the for-
mation of crystals on said rod and said support.

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